

Klondike Road Bridge
(Votaw Road Bridge)
Spanning Big River at Klondike Road
Morse Mill vicinity
Jefferson County
Missouri

HAER No. MO-71

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
U. S. Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD

Klondike Road Bridge
(Votaw Road Bridge)

HAER No. MO-71

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Original Location: The bridge was originally part of the Votaw Road Bridge over the Meramec River between Times Beach and Eureka from 1900 to 1933.

Present Location: Spanning the Big River at Klondike Road
Morse Mill vicinity, Jefferson County, Missouri

UTM: Zone 15 N 4241040320 E 706950
Quad: Cedar Hill, 7.5 minute series

Date of Construction: Built in 1900 as the two-span Votaw Road Bridge, one span was reconstructed in 1933 as the Klondike Road Bridge.

Builder: St. Louis Bridge and Iron Company

Present Owner: Jefferson County Courthouse
Jefferson County
Hillsboro, Missouri

Present Use: Vehicular traffic bridge

Significance: The bridge is the longest and oldest of eight surviving pinned Camelback through truss bridges in Missouri. The bridge is also the fifth longest of all the pinned through truss bridges in the state.

Historians: Tom Gage, Ph.D., American History
Craig Sturdevant, M.A., Anthropology
John Carrel, Research Associate, ERC

I. HISTORY

The Votaw Road Bridge, later partially reconstructed in Jefferson County as the Klondike Road Bridge, was constructed across the Meramec River on the Votaw Road.¹ The bridge provided the major thoroughfare between St. Louis and Eureka, Missouri. The bridge served that purpose from its construction in 1900 until the construction of a new alignment of U.S. Route 66 in 1931, when the bridge was considered insufficient for the needs of the new highway.² One span of the abandoned Votaw Road Bridge was sold for scrap by St. Louis County. The remaining span and approach span were sold for \$1.00 to Jefferson County in 1933 to be moved to its present location on the Big River in Jefferson County.³ No actual record of the original construction of the Votaw Road Bridge was known to exist by the St. Louis County Highway and Bridge Engineer or by officials of the County Clerk's office. The only printed records concerning the construction of the bridge were found at the Missouri State Highway Department in a set of bridge plans for the bridge that replaced it dated 10-5-29. The plans include as an inset a poorly-rendered plan drawing of the Votaw Bridge, with mention of the builder as St. Louis Bridge and Iron Company and the date of construction as 1900. An attached bridge report dated December 11, 1929, for the replacement bridge included a brief section describing the existing bridge.⁴

Dale Williams, who helped in the reconstruction of one span of the bridge, had taken part in of "Old Route 66 at Times Beach."⁵ James Powell of the Route 66 Highway Association of Missouri did not believe that Route 66 followed that alignment until after the construction of Bridge No. J421.⁶ The Votaw Bridge, however, may have been in temporary service to Route 66 traffic during the construction of J421 since it was near the new bridge and was not removed until 1933.⁷ According to Dale Wilson, the hauling and reconstruction of one span of Votaw Bridge on Klondike Road across Big River in Jefferson County occurred throughout the summer of 1933. Wilson and A. H. Blake donated their labor to the project, which was engineered by Roule Blackwell. Wilson, who is 80 years old at this writing, still lives on the hilltop east of the bridge. He explained that the bridge was dismantled in large whole section, which were each loaded on a wagon and hauled to the site where they were set on a developing wood framework. At one point about halfway through construction, high water threatened to collapse their work. Disaster was averted by the continuous pulling and pushing of flood debris and logs out of and away from the cribwork. Wilson stated that when all the sections were finally reconnected, the whole bridge was carefully lowered into place on its new piers and abutments. Wilson also pointed out that the road was named Klondike, after the two miners who, at one time, unsuccessfully tried mining in the area.

It can be easily assumed that the original construction of the Votaw Road Bridge was to provide a more direct route to St. Louis and points east for the city of Eureka, Missouri. The reconstruction over the Big River provided a more direct farm to market route to what is now State Route B, which is a historically important north-south thoroughfare in Jefferson County and is approximately one mile to the west of the bridge.⁸ Morse Mill, located two miles south of the bridge crossing, was first settled in 1800.⁹ River crossings in the area were primarily fords, and a bridge was not constructed at Morse Mill until 1886.¹⁰ At this time, there was a ford at Morse Mill, as well as on Klondike Road two miles north of Morse Mill.¹¹ It is probable that

the construction of the Morse Mill Bridge removed any major perceived need for a bridge at Klondike, which is why the bridge was placed on the road at the relatively late date of 1933.

II. THE BRIDGE

The Klondike Road Bridge has a steel, 225.17' long by 18' 5" wide, 32' 8" high, 10-panel, pin-connected, camel through truss main span with a 15' wide roadway. The approach span is a 50' long 8" high Pratt pony truss with a 15' wide roadway. The bridge has 16' vertical clearance. The main span/approach piers are 5' 4" diameter filled steel cylinders and the bridge ends are supported by concrete abutments and piers.

The main span components and dimensions are symmetrical and only the east five panels of the east side of the main span are described. The inclined end posts and top chords consist of 15" x 1/4" plate over 2-1/2" x 10" webbed channels. The bottom chords of the first two panels are paired 1" x 2-1/2" flat eye bars, of the third panel paired 1" x 3-1/2" flat eye bars, of the fourth panel paired 1-1/8" x 4" flat eye bars, and of the fifth panel paired 1-1/8" x 4" flat eye bars. The verticals are 6" x 9", composed of latticed 6" x 2" channels with the webbing facing the portals. The hip verticals are paired 3/4" square eye bars. The hip diagonals are 7/8" x 3" paired flat eye bars. The diagonals of the second and third panels are 5/8" x 2" paired flat eye bars. The diagonals of the fourth and fifth panels are 7/8" round eye bars and the fifth panel with 1-1/8" round eye bars. The struts and portal bracing are formed of 3" x 4" angles, paired back to back. The sway bracing is accomplished with 1-1/8" round eye bar across both diagonals and the vertical. The top lateral bracing is 7/8" round eye bar. The bottom lateral bracing is 1-1/2" round eye bar. The floor beams are 15" I-beams, and there are 10" I-beam stringers with a 10" channel on either edge. The deck is oak planking.

The approach span is a single panel truss. The inclined end posts and top chords are composed of 1/4" x 10" plate over webbed 5" channels. The bottom chords are 1/2" x 2" flat eye bars. The hip verticals are paired 1/2" x 2" angles. The diagonals and counter bracings are 1" round eye bar. The floor is oak planking over I-beam stringers supported by 13" floor beams.

The bridge is a camelback through truss, which is a Parker truss with a polygonal top chord of exactly five sides. The form generally originated with C. H. Parker who, in the 1870s, introduced the plan of making the top chords of through trusses polygonal, thus effecting an economy in weight of metal for long spans. The camelback truss was an important late 19th and early 20th century-type used for spans of generally 100 feet and longer.¹² The Klondike Road Bridge is the longest extant camelback and the fourth longest extant pin-connected through truss in Missouri.¹³

III. ST. LOUIS BRIDGE AND IRON COMPANY

The St. Louis Bridge and Iron Company was established in St. Louis in 1896, according to Darnell.¹⁴ Of interest, however, is the fact that the Jefferson County Court Records contain

numerous contracts with and payments to St. Louis Bridge and Iron Company, from approximately 1886, when the St. Louis Bridge and Iron Company was paid \$7,315 at the completion of the bridge at Morse Mill.¹⁵

IV. ENDNOTES

1. Bridge No. J421 Plans. Missouri Highway and Transportation Department, Jefferson City, Missouri, 1929.
2. Bridge No. J421 Plans, 1929.
3. Dale Williams, Interview by John Carrel, March 10, 1992. Tape recording, Environmental Research Center, Jefferson City, Missouri.
4. Bridge No.. J421 Plans, 1929.
5. Dale Williams, interview, 1992.
6. James Powell, interview by John Carrel, March 10, 1992. Tape recording, Environmental Research Center, Jefferson City, Missouri.
7. Dale Williams, interview, 1992.
8. Anonymous, An Illustrated History and Map of Jefferson County, Missouri. St. Louis: Brink, McDonough & Company, 1876, p. 48.
9. Anonymous, 1876, p. 15.
10. Anonymous, 1876, p. 56.
11. Jefferson County, County Court Record, May 7, 1886.
12. J. A. L. Waddell, Bridge Engineering, New York: John Wiley & Sons, Inc., 1916, p. 24.
13. Determination of Eligibility Statement, Klondike Bridge, May 10, 1990.
14. Victor Darnell, Directory of American Bridge Building Companies 1840 to 1900, Washington, D.C.: The Society for Industrial Archaeology, 1984, p. 31.
15. County Court Record, April 6, 1887.

V. BIBLIOGRAPHY

Anonymous. An Illustrated History and Map of Jefferson County, Missouri. St. Louis, Missouri: Brink, McDonough & Co., 1876.

Bridge No. J421 Plans. Missouri Highway and Transportation Department, Jefferson City, Missouri, 1929.

Darnell, Victor. Directory of American Bridge-Building Companies 1840 to 1900. Washington, D.C.: The Society for Industrial Archaeology, 1984.

Determination of Eligibility Statement, Klondike Bridge, Missouri State Historic Preservation Office, Jefferson City, Missouri, May 10, 1992.

Jefferson County, County Court Record. Hillsboro, Missouri. 1886 through 1887.

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**Klondike Road Bridge
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HAER No. MO-71
(Page 6)**

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